



This course will prepare you for the College Algebra objective assessment. The course covers 5 competencies.

Preparing for a Successful Experience in College Algebra

The WGU Math Center can help prepare you for a successful experience in College Algebra. Connect with the Math Center to learn more before engaging in this course.

- [Math Center](#)

Introduction

Course Overview

College Algebra covers basic algebraic concepts and functions and their use in describing, interpreting, and modeling real-world situations. Topics include real and complex numbers; algebraic expressions; linear equations and inequalities; graphs; relations and functions; polynomial, rational, inverse, exponential, and logarithmic functions; function composition; and systems of linear equations.

Welcome Video

Watch the following video for an introduction to this course:

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).

Getting Started

Welcome to College Algebra! To assist you in mastering the material of this course you will use Hawkes' *College Algebra* Learning Resource. This is an interactive, lesson-based learning resource organized according to competencies. Within each lesson you will find text to read, videos to watch, and questions to help you learn, practice, and certify your understanding of course concepts. Because algebra is a subject that builds on itself, it is highly recommended that you complete the lessons in the order listed in the pacing guide and in the Hawkes resource. Competency will be demonstrated by the successful completion of this Objective Assessment. The course also includes a Pre-assessment, which you can take at any time to assess your understanding of course concepts and to determine if you are ready for the Objective Assessment. The Pre-assessment will provide you with a Coaching Report that will help you target the topics where you have more to learn. In addition to these resources, Course Instructors are also available to answer questions and discuss concepts of college algebra.

Quick Start Video

Note: To download this video, right-click the following link and choose "Save as...": [download](#)



[video.](#)

Competencies

The College Algebra course prepares you to demonstrate competence in the following 5 areas:

- **Competency 1010.1.1: Real Numbers and Linear Equations**
The graduate classifies and performs operations on real numbers; solves linear equations and inequalities; connects a linear equation to its graph; and identifies a function.
- **Competency 1010.1.2: Systems of Linear Equations**
The graduate solves systems of linear equations and their related applications.
- **Competency 1010.1.3: Polynomials**
The graduate simplifies and factors polynomial expressions, and solves polynomial equations.
- **Competency 1010.1.4: Rational, Radical, and Quadratic Expressions, Equations, and Functions**
The graduate simplifies rational, radical, and quadratic expressions, solves corresponding equations, and extends this knowledge to the study of functions.
- **Competency 1010.1.5: Functions: Combining, Inverses, Exponential, and Logarithmic**
The graduate combines functions, finds inverse functions, solves exponential and logarithmic equations and functions.

Learning Materials

The information in this section will help you succeed in this course.

This Course of Study is your roadmap to success for this course. You will complete this course in the Hawkes learning environment. Remember to return to the Course of Study regularly as you work through the course to access important resources, including suggested pacing and updates from your Course Instructors.

Course Communities

On the right hand side of your Course of Study are four links to valuable resources: Course Announcements, Course Tips, Course Search, and Course Chatter. This section contains important, up to date information provided by your course instructors.

Course search articles are a valuable resource available anytime to answer many of your questions and support your success. **Course Search** contains vital videos, articles, and optional supplemental resources beyond the primary learning resource that can help you prepare for the Objective Assessment. To find a quick answer in Course Search, enter a key word such as "whiteboard" to find an article on whiteboard requirements for taking the exam.

Automatically Enrolled Resources

You will be automatically enrolled in the Hawkes Learning Resource. Hawkes is the main learning resource and is a fully online course complete with readings, videos, and interactive



exercises. Targeted feedback and self-assessment tools, as well as trackable exercises, will help you assess your strengths and quickly address misconceptions you might encounter in statistics.

Learning Resource

The information in this section will help you navigate your learning resources and successfully complete the course.

Using the Hawkes Learning Resource

Follow the course content carefully, as it has been specifically selected to prepare you for the WGU objective assessment. College Algebra uses a mastery approach to learning. Begin by clicking on the topic names using the to-do list. For each lesson,

- complete the “Learn” section (which houses important concepts and lesson videos),
- complete the “Practice” section, reading the explanations, using the “tutor” and “try similar” buttons as needed, and reviewing the pertinent “Learn” sections, and
- pass the “Certify” section.

Complete the lessons in order, as each section builds on the previous section. This will help you gain competence in each of the topic areas.

You can view your overall progress by clicking on the Grades tab located at the top of the page in Hawkes.

After successfully completing each of the topics listed in the pacing guide, take the WGU pre-assessment.

How To Input Answers in Hawkes Practice & Certify:

Note: To download this video, right-click the following link and choose “Save as...”: [download video](#).

Live Sessions

Find your [Calendar of Live Events](#), which includes Cohorts, Hot Apps, and Q&A sessions, in the Course Tips section, located on the right hand side of your Course of Study.

Enroll in a Cohort to receive weekly emails to you keep you on track. Drop into a Q&A session any time to work directly with a Course Instructor!

Pacing Guide

The pacing guide suggests a weekly structure to pace your completion of learning activities. It is provided as a suggestion and does not represent a mandatory schedule. Follow the pacing guide carefully to complete the course in the suggested timeframe. Each lesson will take you approximately 45 minutes to complete.

- **Before Week 1**



- Complete the “Pre-requisite Readiness Check” without using outside resources
 - Do the review lessons based on your Readiness Check which might include 1.3b – 1.3e, 1.4a, 2.1a, 2.1b, 4.2a, A.1
- **Week 1**
 - Optional: Download Recorded Cohort Session 1 notes and watch the video (see Recorded Cohort section for links to notes and video)
 - Competency 1 – Topic 1: Real Numbers
 - 1.2a Name that Real Number
 - Competency 1 – Topic 2: Linear Equations
 - 1.4b Solving Linear Equations
 - 1.5b Solving Formulas
 - 1.6 Applications
 - 1.7a Solving Linear Inequalities
 - Practice Checkpoint 1 (optional)
- **Week 2**
 - Optional: Download the Recorded Cohort Session 2 notes and watch the video
 - Optional: Download the Recorded Cohort Session 3 notes and begin watching the video through lesson 3.2
 - Competency 1 – Topic 3: Coordinate Plane
 - 2.2 Graphing Linear Equations in Slope-Intercept Form
 - 2.3a Finding the Equation of a Line
 - Competency 1 – Topic 4: Introduction to Functions
 - 2.4 Introduction to Functions and Function Notation
 - Competency 2 – Topic 1: Systems of Linear Equations
 - 3.1b Solving Systems of Linear Equations by Substitution
 - 3.1c Solving Systems of Linear Equations by Addition
 - 3.2 Applications: Systems of Equations
 - Practice Checkpoint 2 (optional)
- **Week 3**
 - Optional: Finish watching Session 3 of the Recorded Cohort
 - Optional: Download the Recorded Cohort Session 4 notes and begin watching the video through lesson 4.5b
 - Competency 3 – Topic 1: Laws of Exponents
 - 4.1a Simplifying Integer Exponents I
 - 4.1b Simplifying Integer Exponents II
 - Competency 3 – Topic 2: Simplifying Polynomials
 - 4.2b Adding and Subtracting Polynomials
 - 4.3a Multiplying Polynomials
 - Competency 3 – Topic 3: Factoring by Grouping
 - 4.5a GCF of a Polynomial
 - 4.5b Factoring by Grouping
 - Practice Checkpoint 3 (optional)
- **Week 4**
 - Optional: Finish watching Session 4 of the Recorded Cohort
 - Optional: Download the Recorded Cohort Session 5 notes and begin watching the video through lesson 5.1b



- Competency 3 – Topic 4: Factoring Trinomials
 - 4.6b Factoring Trinomials by the ac-Method
- Competency 3 – Topic 5: Factoring the Difference of Two squares
 - 4.7a Special Factorizations – Squares
- Competency 3 – Topic 6: Polynomial Equations
 - 4.8 Solving Equations by Factoring
- Competency 4 – Topic 1: Rational Expressions
 - 5.1a Defining Rational Expressions
 - 5.1b Multiplication and Division with Rational Expressions
- Practice Checkpoint 4 (optional)
- **Week 5**
 - Optional: Finish watching Session 5 of the Recorded Cohort
 - Optional: Download the Recorded Cohort Session 6 notes and begin watching the video through lesson 6.4
 - Competency 4 – Topic 1: Rational Expressions
 - 5.4 Solving Rational Equations with Rational Expressions
 - 5.5 Applications Involving Rational Expressions
 - Competency 4 – Topic 2: Radical Expressions
 - 6.1 a Evaluating Radicals
 - 6.1b Simplifying Radicals
 - 6.2 Rational Exponents
 - Competency 4 – Topic 3: Radical Equations
 - 6.4 Solving Radical Equations
 - Practice Checkpoint 5 (optional)
- **Week 6**
 - Optional – Finish watching Session 6 of the Recorded Cohort
 - Competency 4 – Topic 4: The Square Root Method
 - 6.6 Complex Numbers
 - 7.1 a Quadratic Equations: The Square Root Method
 - Competency 4 – Topic 5: Quadratic Formula and Applications
 - 7.2 Quadratic Equations: The Quadratic Formula
 - 7.3 Applications: Quadratic Equations
 - Competency 4 – Topic 6: Quadratic Functions
 - 7.5 Graphing Parabolas
 - Practice Checkpoint 6 (optional)
- **Week 7**
 - Optional: Download the Recorded Cohort Session 7 notes and watch the video
 - Competency 5 – Topic 1: Combining Functions and Finding Inverse Functions
 - 8.1 Algebra of Functions
 - 8.2 Composition of Functions and Inverse Functions
 - Competency 5 – Topic 2: Exponential and Logarithmic Functions
 - 8.3 Exponential Functions and the Number e
 - 8.4 Logarithmic Functions
 - 8.6 Common Logarithms and Natural Logarithms
 - Competency 5 – Topic 3: Exponential and Logarithmic Equations
 - 8.7 Exponential and Logarithmic Equations



- 8.8 Applications: Exponential and Logarithmic Functions
 - Practice Checkpoint 7 (optional)
 - Optional: Download the Recorded Cohort Session 8 notes and watch the video
 - Practice Checkpoint 8 (optional)
 - **Week 8**
 - Am I ready?
 - Take the pre-assessment to determine if you are ready to schedule the assessment. Contact a course instructor to review your coaching report.

Recorded Cohorts

Recorded Cohort Sessions	Lessons Covered	Video Link	Notes Link	Notes Link (large font)
Session 1	1.2a - 1.7	Video	Notes	Notes (large font)
Session 2	2.1a - 2.4	Video	Notes	Notes (large font)
Session 3	3.1a - 4.2b	Video	Notes	Notes (large font)
Session 4	4.3a - 4.8	Video	Notes	Notes (large font)
Session 5	5.1a - 6.2	Video	Notes	Notes (large font)
Session 6	6.3a - 7.5	Video	Notes	Notes (large font)
Session 7	8.1 - 8.8	Video	Notes	Notes (large font)
Session 8: Word Problems	1.6, 3.2, 4.8, 5.5, 7.3, 8.8	Video	Notes	Notes (large font)

Study Guide: Main Ideas in College Algebra

For more details on the following Main Ideas in College Algebra, work through all the lessons in Hawkes Learning. Use the Key Concepts and Word Problem and Application Strategies documents linked below as you complete the lessons in Hawkes Learning.

Print out and study the following Key Concepts and Word Problem and Application Strategies to reference as you work through the course.

- [Key Concepts](#)
- [Word Problem and Application Strategies](#)

Formulas: This list provides you with some of the most common formulas found in College Algebra. Use these formulas as you complete your course work. You are not expected to memorize these formulas for the objective assessment. In fact, you will be provided with the following list of formulas to reference during the exam. However, it is recommended that you familiarize yourself with the name and purpose of each formula so that you can quickly recognize which formula(s) you need during your objective assessment. Click the link below for a PDF version of this list you can download and print.

- [List of formulas to reference during objective assessment](#)



Be able to:

- Combine like terms
- Perform order of operations
- Setup and solve word problems
- Graph linear and quadratic functions
- Use distributive property
- Factor
- Find the inverse of a function
- Use your calculator
- Simplify Expressions
 - Exponential and logarithmic expressions
 - Radical expressions
 - Rational expressions
- Solve Equations
 - Linear Equations
 - Systems of equations
 - Quadratic equations
 - Rational equations
 - Radical equations
 - Exponential and logarithmic equations
- Apply Rules
 - Laws of exponents
 - Properties of logarithms

Additional Preparations

Purchase a Calculator

Acquire a scientific calculator and familiarize yourself with how to use it. Refer to the [Calculator Guidelines in the WGU Student Handbook](#) for details regarding calculators that are acceptable on WGU exams.

Whiteboards

Whiteboards may be used to assist you as you complete the assessment for this course. Paper, or other note taking resources, may not be used during the assessment. For math assessments only, scratch paper can be used only when taking the assessment at an on-site testing center. Please view the following video for more information on how to use a whiteboard:

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).

Launch Your Course

Once you are ready to start this course or are actively working in the learning resource, click either the 'Complete All' or the 'Complete' button below. Both buttons effectively do the same thing and you only need to complete this step once.

Use the 'Launch Course' button each time you want to access your learning resource to



continue your learning.

Launch College Algebra with Hawkes Learning

When you're ready to begin learning in your course, mark this activity complete.

[Launch Course](#)

Assessment Prep

Review the information below before taking your assessment.

Objective Assessment

Before scheduling and taking the objective assessment, review this list of items. Completing each of these items will help you be prepared for the assessment.

First Attempt Checklist

- Review the pacing guide and identify any suggested work you haven't yet completed.
- Print out and study the [Key Concepts](#) and [Word Problem and Application Strategies](#).
- Review [the list of formulas to use during the objective assessment](#).
- Take the pre-assessment.
- Call the math help line at x1761 to review your Coaching Report.
- Review sections as recommended.
- Schedule the objective assessment.
- Note: From time to time, we may field-test a few items in order to improve our assessment. Refer to the ["What are Field-Test Questions?"](#) section in the [WGCU Student Handbook](#) for details regarding field-test questions.

Remember that you can use a scientific calculator and a white board on the assessment. Refer to the [Calculator Guidelines in the WGCU Student Handbook](#) for details regarding calculators that are acceptable on WGCU exams.

The following is a breakdown of each competency in relation to the assessment.

Competency and Topic(s)	Related Lessons
Competency 1: Real Numbers and Linear Equations (22% of assessment)	
Topic: Real Numbers	1.2a
Topic: Linear Equations	1.4b, 1.5b, 1.6, 1.7a
Topic: Coordinate Plane	2.2, 2.3a
Topic: Introduction to Functions	2.4
Competency 2: Systems of Linear Equations (14% of assessment)	



Topic: Systems of Linear Equations	3.1b, 3.1c, 3.2
Competency 3: Polynomials (20% of assessment)	
Topic: Laws of Exponents	4.1a, 4.1b
Topic: Simplifying Polynomials	4.2b, 4.3a
Topic: Factoring by Grouping	4.5a, 4.5b
Topic: Factoring Trinomials	4.6b
Topic: Factoring the Difference of Two Squares	4.7a
Topic: Polynomial Equations	4.8
Competency 4: Rational, Radical, and Quadratic: Expressions, Equations, and Functions (30% of assessment)	
Topic: Rational Expressions	5.1a, 5.1b, 5.4, 5.5
Topic: Radical Expressions	6.1a, 6.1b, 6.2
Topic: Radical Equations	6.4
Topic: The Square Root Method	6.6, 7.1a
Topic: The Quadratic Formula and Applications	7.2, 7.3
Topic: Quadratic Functions	7.5
Competency 5: Functions: Combining, Inverses, Exponential, and Logarithmic (14% of assessment)	
Topic: Combining Functions and Finding Inverse Functions	8.1, 8.2
Topic: Exponential and Logarithmic Functions	8.3, 8.4, 8.6
Topic: Exponential and Logarithmic Equations	8.7, 8.8

Policies

Please review these important policies:

Accessibility Policy

Western Governors University recognizes and fulfills its obligations under the Americans with Disabilities Act of 1990 (ADA), the Rehabilitation Act of 1973 and similar state laws. Western Governors University is committed to provide reasonable accommodation(s) to qualified disabled learners in University programs and activities as is required by applicable law(s). The Office of Student Accessibility Services serves as the principal point of contact for students seeking accommodations and can be contacted at ADASupport@wgu.edu.



Netiquette

Netiquette Guidelines

Online Netiquette: Guidelines for WGU Students These guidelines are a quick reference source for interacting with fellow students, mentors, and WGU staff. While these guidelines adhere to the standards outlined in the WGU Student Handbook, they are not meant as a replacement for the explicit information presented in the handbook.

Be professional and respectful:

- Be civil and kind in your interactions with others.
- Respond to important emails sent to you.
- Be cautious when using ALL CAPS (yelling), sarcasm, and humor.
- Be cautious when posting content (pictures, comments).
- Avoid forwarding spam or selling anything.
- Keep comments related to the topic.
- Be aware that mentors, students, and others live in different time zones.

Be short, concise, and readable:

- Use sans serif fonts (e.g., Arial, Helvetica) with a point size of 12 or higher.
- Use acronyms cautiously. For example, common acronyms such as FAQ and RSVP are fine; however, unknown acronyms like UCET or USOE should be spelled out.

Be credible:

- Cite references and sources such as web links, articles, books, etc., when possible.
- Re-read your emails to clarify and ensure it sends the intended "message."

Be safe:

- Keep personal information private to avoid identity fraud.
- Keep other's information private (WGU students, companies, etc.)